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Claims:

1.   A method of determining an angle between a first direction of movement of a print head and a second direction of movement of a print media, said method comprising:

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printing an array of markings on said print media, said array of markings extending along said first direction and along said second direction;

traversing a sensor device along said first direction, and detecting a signal
10   corresponding to said plurality of markings;

identifying a plurality of peaks in said sensor signal as a plurality of data co-ordinates; and

15   obtaining an angle data describing an angle between said plurality of data co-ordinates and a reference data.

2.   The method as claimed in claim 1, wherein said process of
20   obtaining an angle data comprises:

identifying a trend line in said plurality of data co-ordinates;

25   comparing said trend line with a reference data line; and

obtaining an angle data describing an angle between said trend line and said reference data line.

30   3.   The method as claimed in claim 1, wherein said reference data comprises a data corresponding to a constant sensor signal.

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4. The method as claimed in claim 1, wherein said sensor signal comprises a plurality of amplitude peaks, each said amplitude peak corresponding to a detected said marking.

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5. The method as claimed in claim 1, where said plurality of peaks are spaced apart from each other at regular intervals.

6. The method as claimed in claim 1, comprising:

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ignoring peaks which are of a magnitude below a pre-determined level.

7. The method as claimed as claim 1, wherein detecting a signal comprises detecting an optical sensor signal.

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8. The method as claimed in claim 1, comprising determining a trend line by:

identifying a maximum value of each of said plurality of peaks; and

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applying a mathematical line fitting technique to said plurality of maximum values to obtain an equation representing said trend line.

9. The method as claimed in claim 1, comprising determining a trend

25 line by:

identifying a maximum value of each of said plurality of peaks;

applying a regressive line fitting technique to said plurality of maximum

30 values to obtain an equation representing said trend line.

10. An algorithm for determining an angle between a line of movement of a printer head of a printer device, and a line transverse to a line of movement of a media sheet transported in said printer device, from a digitised optical sensor signal, said optical sensor signal comprising a plurality of peaks spaced apart at

5 substantially regular spatial intervals, said algorithm carrying out the processes of:

identifying maximum peak values for each of said plurality of peaks;

10 comparing said set of identified maximum peak values with a pre-determined threshold value;

selecting a set of said peak values which exceed said pre-determined threshold value; and

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determining said angle by analysing a spatial positioning of said plurality of peaks.

11. The algorithm as claimed in claim 10, wherein said process of

20 analysing a spatial positioning of said plurality of peaks comprises:

fitting a straight line equation to said set of selected peak values; and

determining an angle data corresponding to an angle between said fitted

25 straight line and a line of zero gradient.

12. A printer device comprising:

a media transport mechanism for carrying a sheet of media;

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a carriage transport mechanism capable of moving a carriage relative to a sheet of media, said carriage comprising a plurality of ink pens, and an optical sensor;

5   a controller device for controlling said carriage transport mechanism and said media transport mechanism, said controller device operable for,

driving said carriage for printing an array of ink spots onto said print media loaded onto said media transport mechanism;

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controlling said carriage to move across at least one row of said printed ink spots, such that said sensor device generates a sensor output signal resulting from detection of said row of ink spots; such that

15   said output sensor signal comprises a plurality of amplitude peaks each corresponding to a respective detected ink spot; and

said controller device further comprising an algorithm operable for determining from said plurality of peaks, an angle between a line formed by said
20   plurality of peaks and a reference line, said angle representing an angle of skew of said media relative to said carriage.

13.   The printer device as claimed in claim 12, further comprising:

25   an automatic pen alignment algorithm for carrying out an automatic pen alignment process in which a calibration is carried out to compensate for a pen variability, wherein said angle of skew is input into said automatic pen alignment algorithm.

30   14.   A data storage media containing program data for implementing an algorithm for determining an angle between a line of movement of a printer head

of a printer device, and a line transverse to a line of movement of a media sheet transported in said printer device, from a digitised optical sensor signal, said optical sensor signal comprising a plurality of peaks spaced apart at substantially regular spatial intervals, said algorithm configured for carrying out the processes

5   of:

identifying maximum peak values for each of said plurality of peaks;

comparing said set of identified maximum peak values with a pre-

10   determined threshold value;

selecting a set of said peak values which exceed said pre-determined threshold value; and

15   determining said angle by analysing a spatial positioning of said plurality of peaks.

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